inter- reader reliability [(individual ICC =0.867 (IC95% 0.786–0.934); average ICC = 0.997 (IC95% 0.995–0.999)].
When comparing high with low experience sonographers, there was no significant differences in intra-class correlation coefficient. However, there was a greater variation between the means among low experience readers (13 to 22) and higher experience sonographers (14–18) (Figure 1).
Conclusions: US reliability is related to sonographer expertise and experience.
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AB1061 THE HIGH DOSES GOLIMUMAB BRING BETTER SUPPRESSION OF ULTRASONOGRAPHIC SYNOVIAL INFLAMMATION IN PATIENTS WITH RHEUMATOID ARTHRITIS?

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Background: Biologic diseasemodifying antirheumatic drugs (bDMARDs) that target cytokines and cytokine receptors such as tumor necrosis factor (TNF)alpha and interleukin (IL)6 have been established as a standard therapy of rheumatoid arthritis (RA) for patients with conventional systemic DMARDs, such as methotrexate (MTX), resistant disease. Golimumab, one of the bDMARDs, is an antibody targeting to TNF-alpha. In Japan, we can choose the dose of golimumab 50mg or 100mg according to the disease activity. Recent advance of ultrasound (US) equipment allows obtaining high-quality gray-scale (GS) imaging and sensitive power Doppler (PD) assessment, especially at small joints of the hands and feet. To date, US is the most sensitive imaging modality available in daily rheumatology practice for the assessment of residual synovitis.
Objectives: The aim of this study was to compare the ultrasound findings between patients with rheumatoid arthritis (RA) treated by golimumab 100mg and 50mg.
Methods: Patients with RA treated by golimumab were consecutively included. Ultrasound examination was performed at 52 synovial sites, bilateral first to fifth MCP, first IP and second to fifth PIP joints, first to fifth flexor tendon and wrists, 2nd and 6th compartment of extensor tendons and first to fifth MTP joints, by using HI VISION Ascendus (Hitachi Medical Corporation, Japan) with a multifrequency linear transducer (18–6 MHz). The GS and PD signals were scored in each synovial site using a semi-quantitative scale from 0 to 3.
Results: Fifty-five patients with RA (46 female, mean age: 64.2±12.1 years) were included and analyzed. In comparison between the dose of Golimumab at the time of ultrasound examination, disease activity (DAS28-CRP) was significantly higher in 100mg group (100mg, n=15: 3.6±1.0, 50mg, n=40: 2.3±0.9; $p<0.001$), but ultrasound findings were not significantly different between golimumab 100mg and 50mg groups. In patients achieving remission, ultrasound findings were not different between 100mg started and 50mg started groups.

Table 1. The comparison between golimumab 100mg and 50mg RA patients at the time of ultrasound examination

	Golimumab 100mg (n=15)	Golimumab 50mg (n=40)	*P* value
Age (years old)	60.3±12.2	65.6±12.0	0.161
Disease duration (years)	17.5±9.6	14.2±9.5	0.263
Duration of golimumab use (years)	1.8±0.9	2.1±1.5	0.542
DAS28-CRP	3.6±1.0	2.3±0.9	<0.001
SDAI	14.0±6.9	5.7±5.0	<0.001
Total GSUS score	16.9±12.6	14.8±12.7	0.572
Total PDUS score	11.3±9.07	6.5±6.0	0.076
Maximum PDUS grade	2.0±1.0	1.6±0.8	0.207

Conclusions: Even patients have high disease activity, golimumab 100mg suppress the synovitis and tenosynovitis very well. In the condition where disease activity was sufficiently controlled, there was no difference in the synovitis findings of ultrasound at the dose of golimumab.
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AB1062 PATTERNS OF MUSCULOSKELETAL SYSTEM INVOLVEMENT IN PATIENTS WITH TYPE I AND TYPE II DIABETES MELLITUS

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Background: Diabetes mellitus (DM) is a chronic disease, no known cure except in very specific situations. Musculoskeletal Utrasonography (MSUS) has a great sensitivity that can help clinical examination for the detection of peripheral enthesitis associated with DM
Objectives: To study the different patterns of musculoskeletal (MSK) system affection in both types of diabetes mellitus (DM).
Methods: We performed a retrospective single-center study on sixty five patients during the period from May 2014 to February 2015, to evaluate MSK manifestations in diabetic patients at Sayyed Galal University Hospital, Cairo, Egypt. Patients were identified as diabetics based on Diagnosis and Classification of Diabetes Mellitus diagnostic criteria (1997) (1). Clinical data, laboratory investigations, X-ray, musculoskeletal ultrasonography (MSUS) (2) and Bone mineral density was measured using Dual energy X-ray absorptiometry (DEXA) scan (3) were all collected from all patients.
Results: We included 65 diabetic patients; of these 21 patients (32.31%) had type I diabetes while 44 patients (67.69%) had type II diabetes. Age in type I was 24.5±10.5 years while in type II was 50.1±8.44 years (P=0.001). DM type II showed higher BMI (P=0.001), fatigue (P=0.005), shoulder periarthritis (frozen shoulder) (P=0.034), knee osteoarthritis (P=0.002), cheiroarthropathy (P=0.016), anserine bursitis (P=0.001) and plantar fasciitis (P=0.003) than type I. Osteoporosis was found in both types but type II showed more prevalence 13/44 patients (29.5%) while type I showed only 3/21 (14.2%). No statistically significant difference between both groups as regard t-score in the three sites. MSUS showed increased prevalence of quadriceps tendon enthesophytes in type I (P=0.033), while Infrapatellar (P=0.023) and retrocalcaneal bursitis (P=0.001) were more prevalent in type II DM.
Conclusions: Early evaluation of any diabetic patient regarding BMD by DEXA scan and soft tissue by MSUS seems to be beneficial for early detection of any abnormality and therefore early management and prevention of complications.
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AB1063 ULTRASONOGRAPHIC ASSESSMENT OF SYNOVITIS IN PATIENTS WITH LESSOR TOE DEFORMITY DUE TO RHEUMATOID ARTHRITIS

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Background: In recent years, joint ultrasonography has been widely used for the diagnosis and treatment of rheumatoid arthritis (RA), allowing visualization of synovitis. Its clinical usefulness in early diagnosis and evaluation of disease activity has been reported. Continuous inflammation, osteochondral destruction, and soft tissue destruction due to synovitis in toe joints result in various clinical pictures of the foot. In the lateral toes in the forefoot, subluxation or luxation of the metatarsophalangeal (MTP) joints may occur, leading to painful callosities and resultant disturbance in activities of daily living. Few reports have addressed toe deformity and joint ultrasonographic findings of synovitis in the forefoot.
Objectives: In this study, lateral MTP joints were assessed using joint ultrasonography in RA patients to examine the correlation with deformity.
Methods: Seventy feet of 61 RA patients were examined in the outpatient clinic of our hospital. Patients who underwent surgery were excluded. The mean age of the patients was 66 years (24 to 92 years), and the mean duration of disease was 12 years and 9 months (1 month to 40 years). Biologic products were used for 23 feet. Joint ultrasonography was performed by the same examiner, using the same room and apparatus. Synovitis was defined as Grade 1 or more as determined by the power Doppler method. Based on foot radiographs in upright position obtained before and after ultrasonography, patients with luxation, subluxation, and joint fissure narrowing were classified into the deformity group, those with bone erosion and geode formation into the bone erosion group, and lack of abnormal findings into the normal group.

Results: Synovitis was found in MTP joints in 41 (14.6%) of 280 toes. The incidence rates of synovitis in the deformity group, the bone erosion group, and the normal group were 27.3%, 13.1%, and 6.7%, respectively. Synovitis was found in 21.7% of patients on therapy with biologic products and in 38.3% of those without such therapy. There were no significant differences in the mean duration of the disease, visual analogue scale score, erythrocyte sedimentation rate, matrix metallopeptidase 3 level, or health assessment questionnaire score among the 3 groups.
Conclusions: Synovitis was also found in patients who showed no changes on imaging of the toes. Synovitis persisted in some patients even after establishment of toe deformity. Drug therapy, intensification of conservative therapy, and synovectomy should be considered to prevent further deformation.
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AB1064 CARPAL TUNNEL BIOPSY AND BONE SCINTIGRAPHY USING THE TECHNETIUM-3,3-DIPHOSPHONO-1,2-PROPANODICARBOXYLIC ACID (99M) (TC-DPD) TRACER CAN IDENTIFY CLINICALLY SILENT CARDIAC AMYLOIDOSIS AT A POTENTIALLY TREATABLE STAGE

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Background: Carpal tunnel syndrome (CTS) is the only known early clinical manifestation of wild-type transthyretin amyloidosis (ATTRwt; formerly known as senile systemic amyloidosis) which causes an amyloid cardiomyopathy. At the UK National Amyloidosis Centre 98% of those with proven ATTRwt have evidence of median nerve entrapment on neurophysiological studies and 48% have a history of carpal tunnel decompression as much as 12 years prior to heart failure symptoms. ATTRwt is diagnosed in approximately 150 individuals in the UK each year although post-mortem studies suggest presence of ATTwt amyloid deposits 30% of males over 80 years (yrs)[1]. A novel bone tracer, Technetium-3,3-diphosphono-1,2-propanodicarboxylic acid (99m) (Tc-DPD) largely abrogates the need for cardiac biopsy, identifying cardiac ATTR amyloidosis with a sensitivity of 98% and specificity of 70%[2]. Amyloid deposition can be readily identified by Congo red staining of carpal tunnel biopsies taken at routine decompression surgery. Immunohistochemistry (IHC) is usually able to determine the amyloid fibril protein (amyloid type). Rheumatologists are ideally placed to request CT biopsy. Developing this underused but diagnostic test is of particular importance in light of emerging therapies for ATTR amyloidosis.
Objectives: To determine the utility of CT biopsy as a diagnostic tool in systemic ATTR amyloidosis, and its utility in combination with Tc-DPD scintigraphy in identifying pre-clinical cardiac amyloidosis.
Methods: CT biopsies were taken at decompression surgery. Biopsies were stained with Congo red and viewed under cross polarised light. IHC was used to type amyloid deposits using standardised techniques.
Results: We analysed 37 CT biopsies, 73% female, median age 65.8 yrs (35–87 yrs). 5 biopsies contained amyloid deposits (13.5%) by Congo red staining. 3 were typed as ATTR amyloid using immunohistochemistry (8%), median age 80.35 yrs. The amyloid type could not be determined by IHC in two cases. No cases of proven ATTR amyloid had a history of heart failure symptoms. Of these, a 74 yr old male attended the NAC for diagnostic work up. He had a normal ECG and Echocardiogram, however, Tc-DPD scintigraphy was able to demonstrate low grade uptake.
Conclusions: Carpal tunnel biopsy can readily identify ATTR amyloid deposition and may identify those at risk of developing cardiac ATTR amyloidosis in the future, permitting earlier intervention with novel therapeutics aimed at preventing accumulation of amyloid. This ongoing study aims to identify the UK prevalence of ATTR amyloid in those with carpal tunnel syndrome and to create a cohort of those who may develop systemic ATTR amyloidosis to further elucidate the disease natural history.
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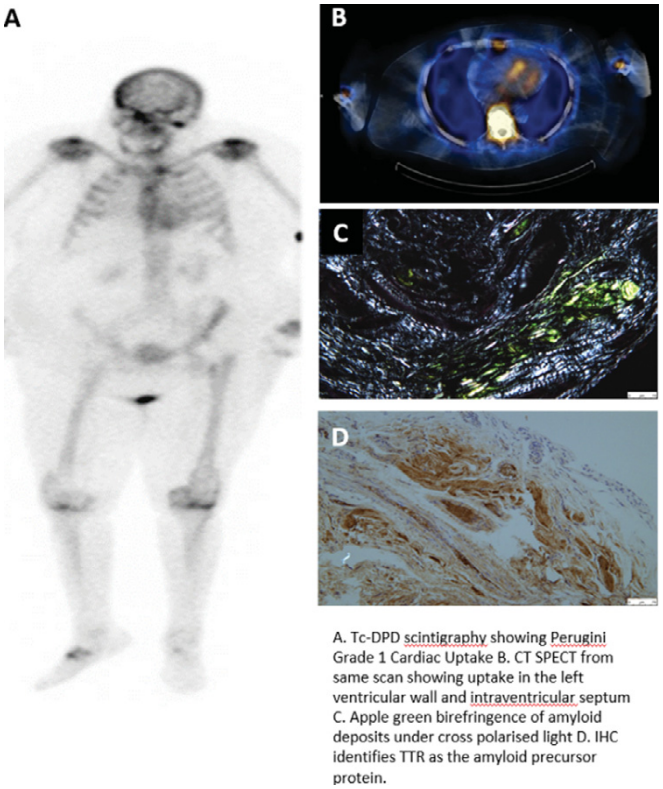

A. Tc-DPD scintigraphy showing Perugini Grade 1 Cardiac Uptake B. CT SPECT from same scan showing uptake in the left ventricular wall and intraventricular septum C. Apple green birefringence of amyloid deposits under cross polarised light D. IHC identifies TTR as the amyloid precursor protein.

AB1065 NEEDLE VERSUS FORCEPS TECHNIQUE IN ULTRASOUND-GUIDED SYNOVIAL BIOPSY OF THE KNEE JOINT

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Background: Ultrasound-guided synovial biopsy is increasingly applied in rheumatology. Usually forceps- or needle-based techniques are used. So far there has been no direct comparison of different devices regarding their suitability in high resolution musculoskeletal ultrasound (hrMSUS)-guided synovial biopsy.